

Magic Sand

Hydrophobic “magic” sand is special sand that has been coated with a silicon compound, making it able to repel water. Because the silicon is only one nanometer thick, hydrophobic sand looks and feels like regular sand. However, *it behaves very differently.*



Have you ever tried to mix cooking oil and water? You may have noticed that they don't actually mix. Instead, the oil pools together, and naturally separates itself from the water. Because of this behavior, **oil is hydrophobic.**

Hydrophobic comes from “hydro-,” which means _____, and “-phobic,” which means _____.

Some things are **hydrophilic**, which means just the opposite:

_____.

Hydrophobic substances will mix with other hydrophobic substances. Hydrophilic substances will mix with other hydrophilic substances. However, hydrophobic and hydrophilic substances do *not* intermix.

HYDROPHOBIC	HYDROPHILIC

Knowing this, what do you think hydrophobic sand will do when we pour it into water? What do you think will happen when we take it out?

Fun Facts:

- Hydrophobic sand was originally used to clean up oil spills. The sand would bind to the oil and drag it to the ocean floor, where it could be more easily gathered.
- Just as dish soap will break apart pools of oil, it will also break apart clumps of hydrophobic sand.